

QUERCUS XCOLUMNARIS LAUGHLIN
CALDWELL OAK

Hibrida nova¹
Quercus palustris Muenchh. X *rubra* L.

Erythrobalanus Section
Palustres Series

Kendall Laughlin (1890-)
165 Pine Ave., Chicago, Ill.

Arbor 19 cm. diametro et 14 m. alta columnaris formae cum gracilibus aequis ramis. Cortex fuscus cinereus, confertus, tenuis laevisque. Novi temporis ramuli glabri, angulati, leviter lucidi viridi-brunnei candidis lenticellis, postero anno brunnei. Extremae hiemales gemmae 4.5-5 mm. longae pyramidatae 4-5-angulatae acutae brunneae puberulentes.

Folia plerumque alterna, interdum opposita. Laminae foliorum 8.5-18.5 cm. longae, circiter 15 cm. longae in inferioribus laminis et 12 cm. longae in superioribus laminis, 5.5-14.5 cm. latae, tenuissimae, supra hebetes galbinae et glabrae, subtus pallidiores et leviter lucidae magnis candidis cinereis floccosis cristis in axillis pallidae costae mediae et trium vel quattuor parium nervorum lateralium principalium, superiorum rectorum, inferiorum falcatorum, circumcurrente adumbratione ovaes vel obovatae, divisae in 3 vel raro 4 lobos lateralis in utroque latere separatos ellipticis vel interdum rotundis diversis sinibus extendentibus tribus-quartis ad costam mediam, aut apertis inferioribus sinibus in angustis laminis in humilibus surculis; lobi infimi acuti cum aut sine pari lateralium setarum; lobi superiores constantis latitudinis in medio, in apice acuti, cum pari setosorum lateralium lobulorum; lobus extremus 1.2-6.5 cm. latus trilobatus cum 2 lateralibus lobulis, apice acuminato cum 3 setis. Basis concava-cuneata.

Petioli 1.3-4.8 cm. longi, prope rotundi, glabri.

Glandes (15-)17-28 plerumque 24 mm. longae; cupula leviter poculiformis incurva margine, (8-)9-12 mm. alta, (13-)17-22 mm. lata, tecta hebetibus viridi-brunneis arte adpressis imbricatis triangulis puberulentibus squamis, intus glabra; nux viridi-brunnea, candido cinereo tomentulo varia, ovoida, (11-)14-25 mm. longa, (12-)15-19 mm. lata, tribus-decimis vel prope dimidio conclusa in cupula; pedunculus 9 mm. tenuis longus, glaber.

Holotypus in Kewensibus Hortis.

QUERCUS XCOLUMNARIS LAUGHLIN

A tree 19 cm. in diameter and 14 m. tall of columnar form with slender horizontal branches. Bark dark gray, close, thin and smooth. Season's branchlets glabrous, angled, slightly lustrous greenish brown with light lenticels, brown the following year. Terminal winter buds 4.5-5 mm. long, pyramidal, 4-5-angled, acute, brown, puberulous.

Leaves usually alternate, sometimes opposite. Leaf blades 8.5 to 18.5 cm. long, averaging 15 cm. long on lower leaves and 12 cm. long on upper leaves, 5.5-14.5 cm. wide, very thin, dull yellow green and glabrous above, paler and slightly lustrous beneath with large light gray floccose tufts in the axils of the pale midrib and the 3 or 4 pairs of primary veins, upper ones straight, lower ones falcate, oval or obovate in peripheral outline, divided into 3 or rarely 4 pairs of lateral lobes separated by elliptic or sometimes divergent sinuses extending three-fourths of the way to the midrib, or open lower sinuses on narrow leaves on low trunk shoots; the lowest pair of lobes acute, with or without a pair of lateral bristles; the upper lobes of constant width in their middle portion, acute at the apex, with a pair of bristle-tipped lateral lobules; the terminal lobe 1.2-6.5 cm. wide, trilobate, with 2 lateral lobules, the acuminate apex with 3 bristles. Base concave-cuneate.

Petioles 1.3-4.8 cm. long, subterete, glabrous.

Acorns (15-)17-28, usually 24 mm. long; cup shallowly cup-shaped with an incurved rim, (8-)9-12 mm. high, (13-)17-22 mm. wide, covered with dull greenish brown closely appressed imbricated deltoid puberulous scales, glabrous inside; nut greenish brown, mottled with light gray tomentulum, ovoid, (11-)14-25 mm. long, (12-)15-19 mm. wide, three-tenths or nearly half enclosed in the cup; peduncle up to 9 mm. long, glabrous.

DISCUSSION

This newly discovered hybrid of the Pin Oak palustris Muenchh. and the Northern Red Oak rubra L., which has a diameter of 7 inches, a circumference of 1 foot 11 inches and a height of 46 feet, is located about 140 feet north of Devon Avenue and 185 feet southwest of Caldwell Avenue in the Clayton F. Smith Preserve of the Cook County Forest Preserves in the southeast corner of Section 32 T41N R12W in Niles Township, Cook County, Illinois, U.S.A. It is in a

dense woods consisting mostly of Quercus palustris, rubra, alba, bicolor, Tilia americana, Acer rubrum and Ulmus americana and it is at the east end of a colony of palustris. There are back-crosses between columnaris and rubra. The terrain is a generally level glacial plain with low humps and shallow depressions, which are ideal for the development of palustris. The only Erythrobalanus Oak species in the vicinity are palustris and rubra, which are numerous to the west. The Pin Oaks reach a diameter of 27 inches and look like virgin timber.

Palustris is near the northern limit of its range in this locality and hybrids between it and the ubiquitous rubra may be expected. The only other colony of palustris in Cook County is in Sweet Woods east of Thornton in the south part of the county.

Columnaris resembles palustris in its columnar form, smooth bark and slender horizontal branches. Its leaves resemble palustris, but the leaves on low trunk shoots are longer.

The acorn-cups of both palustris and rubra are saucer-shaped, but those of columnaris are shallowly cup-shaped. Most of the nuts of columnaris are like rubra. A few are smaller and range down to the size of palustris.

The cup-scales of the larger type of acorn of columnaris are like those of the champion Xmutabilis Palm. & Steyer. in Miquoria, shown as the upper acorn in the center of p. 378 of vol. 6 of PHYTOLOGIA; and the relative proportions of the cup and nut of the two are about the same, but the acorns of columnaris are larger. Such similarity would be expected because the phylogenies of columnaris and mutabilis differ only in respect of their closely related parents rubra and shumardii Buckl.

The possibility of columnaris being ellipsoidalis E.J.Hill or related thereto should be dismissed. While ellipsoidalis is a very variable species and sometimes imitates palustris or velutina Lam. in its form or bark, the leaves of ellipsoidalis are thicker and lustrous above, their lobes are deeply divided at their apex into acuminate lobules, they lack large tufts of hairs, and its acorns are typically smaller and narrower. And while ellipsoidalis is generally common in the central and northern parts of Cook County, it is curiously absent from the east side of the North Branch of the Chicago River for several miles south of Oakton Street.

The common name Caldwell Oak is bestowed upon this tree in honor of Billy Caldwell, known to the Indians as Sauganash, son of a British colonel and a Potawatomi Indian, who once owned this tract. The

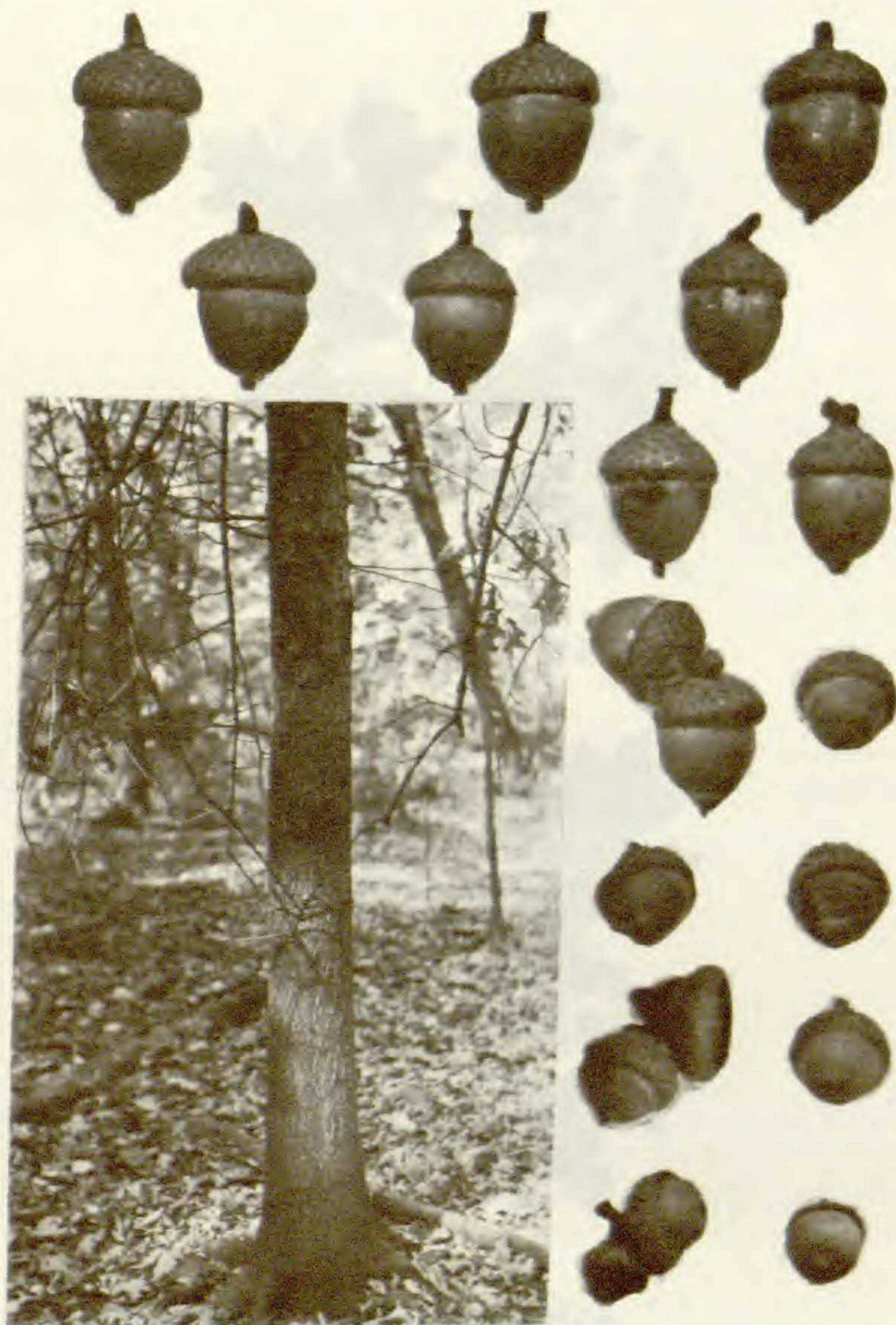
rnment gave him 1600 acres between Sauga-
and Indian Road northwest of the northern
ary Line as a reward for his influence
ians.

otype will be deposited in the Royal Bo-
s, Kew, England, and an isotype will be
the Chicago Natural History Museum.

chteri was described as a hybrid of palu-
bra by C. G. Baenitz in Allg. Bot.
85 in 1903 from a tree in Silesia. Leon
reya 36:141-2) and E. J. Palmer (A.A.J.
ioned this identification and thought that
ht have been coccinea Muenchh. and Palmer
chteri was invalid. Richter is not shown
ame in the U.S.F.S. Check List of Native
zed Trees.

THE TYPE TREE
OF
QUERCUS
XCOLUMNARIS





THE TYPE TREE OF QUERCUS XCOLUMNARIS
BARK ACORNS X7/10

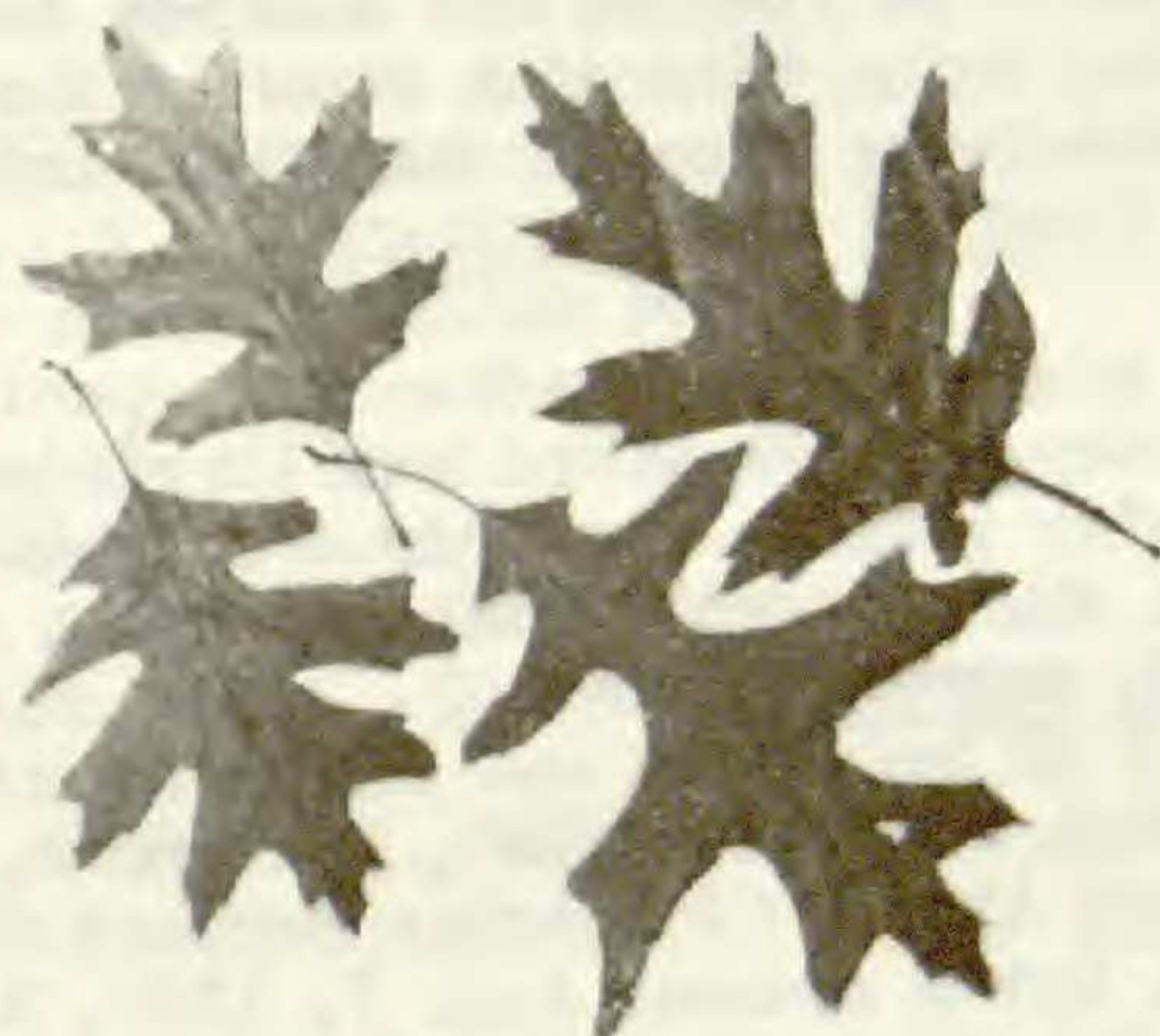


Upper Surface
22% of natural size

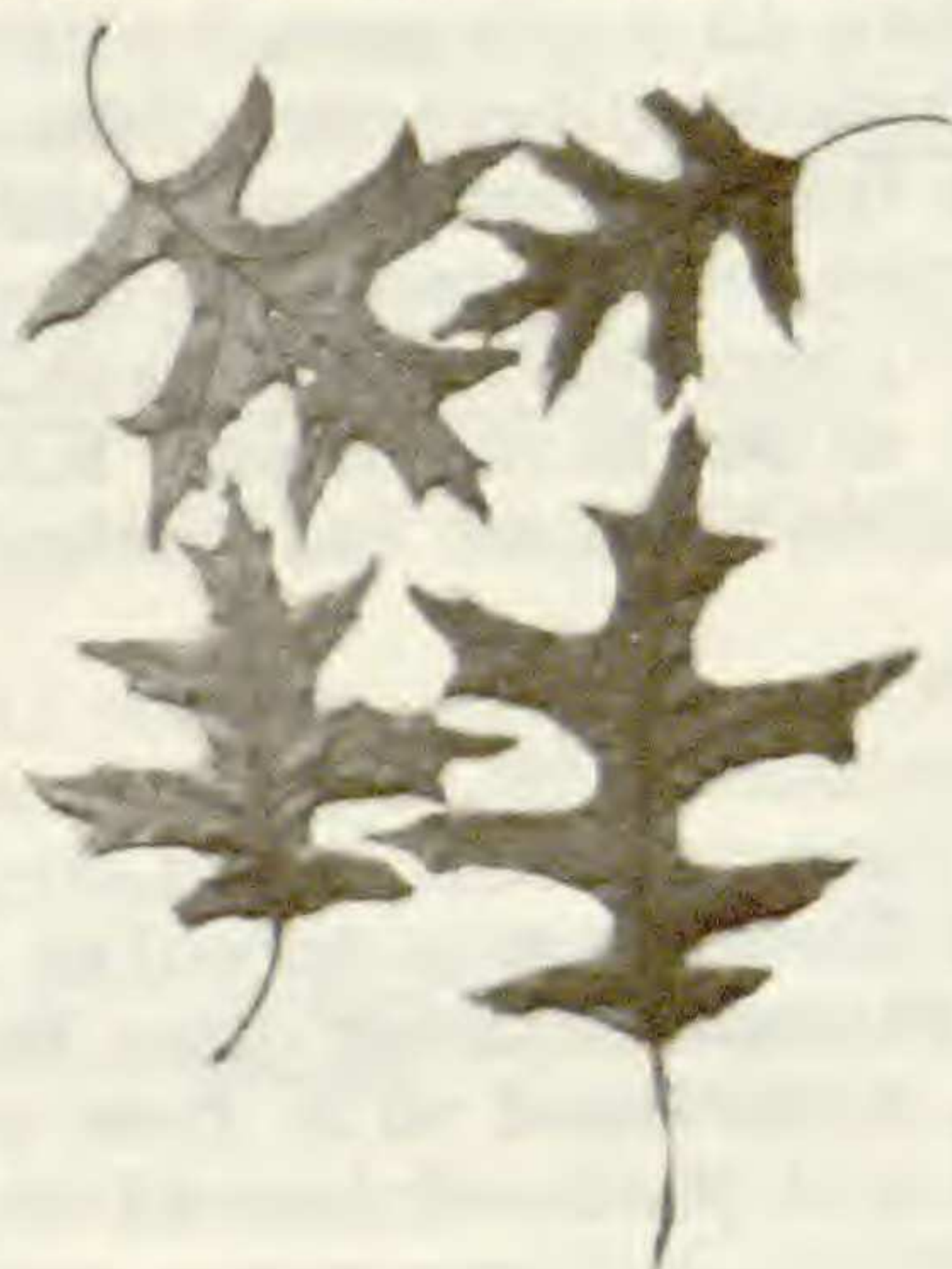


Lower Surface
27% of natural size

LOWER LEAVES OF QUERCUS XCOLUMNARIS



Upper Surface
23% of natural size



Lower Surface
23% of natural size

UPPER LEAVES OF QUERCUS XCOLUMNARIS